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IS 7286 (1991): Test chart for woodworking single chain mortising machines [PGD 3: Machine Tools]



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Indian Standard

**TEST CHART FOR WOODWORKING SINGLE
CHAIN MORTISING MACHINES**

(First Revision)

UDC 674·056 : 621·913·6 : 620·1 (084·3)

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Indian Standard

TEST CHART FOR WOODWORKING SINGLE CHAIN MORTISING MACHINES

(First Revision)

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 7950 : 1985 'Woodworking machines — Single chain mortising machines — Nomenclature and acceptance conditions', issued by the International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendations of the Woodworking Machines Sectional Committee (PE 01) and approval of the Production Engineering Division Council.

This standard was first issued in 1974. Consequent upon the publication of ISO 7950 : 1985, this standard has been revised by adopting ISO 7950 : 1985 to bring it in line with ISO standard. In this revision, clause references of ISO 230-1 : 1986 for method of tests has been incorporated which were not there earlier.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to ISO/R 230 'Test code for machine tools' (since revised as ISO 230-1 : 1986). The Indian Standard IS 2063 : 1988 'Acceptance code for machine tools — Geometric accuracy of machines operating under no load or finishing conditions (*first revision*)' which is identical with ISO 230-1 : 1988 is to be substituted in its place.

Only the English language text of the International Standard has been retained while adopting it as Indian Standard.

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1 Scope and field of application

This International Standard specifies the nomenclature appropriate to each part of the machine and, with reference to ISO/R 230, the geometrical tests for single chain mortising machines, and gives the corresponding permissible deviations which apply to machines for general purpose use and normal accuracy.

This International Standard deals only with the verification of accuracy of the machine. It does not apply to the testing of the running of the machine (vibrations, abnormal noises, stick-slip motion of the components etc.), nor to its characteristics (speeds, feeds etc.) which should generally be checked before testing accuracy.

This International Standard does not impose any practical test. For single chain mortising machines, practical tests should be exceptions and have to be stated in a previous agreement between the producer and the user.

2 Reference

ISO/R 230, *Test code for machine tools*.

3 Preliminary remarks

3.1 In this International Standard all dimensions and permissible deviations are expressed in millimetres.

3.2 To apply this International Standard, reference should be made to ISO/R 230, especially for installation of the machine before testing, the warming up of the main spindle and other moving parts, and description of measuring methods. The measuring instruments shall not permit errors over 1/3 of the checked tolerances.

3.3 The sequence in which the geometrical tests are given is related to the sub-assemblies of the machine and this in no way defines the practical order of testing. In order to make mounting of instruments or gauging easier, tests may be applied in any order.

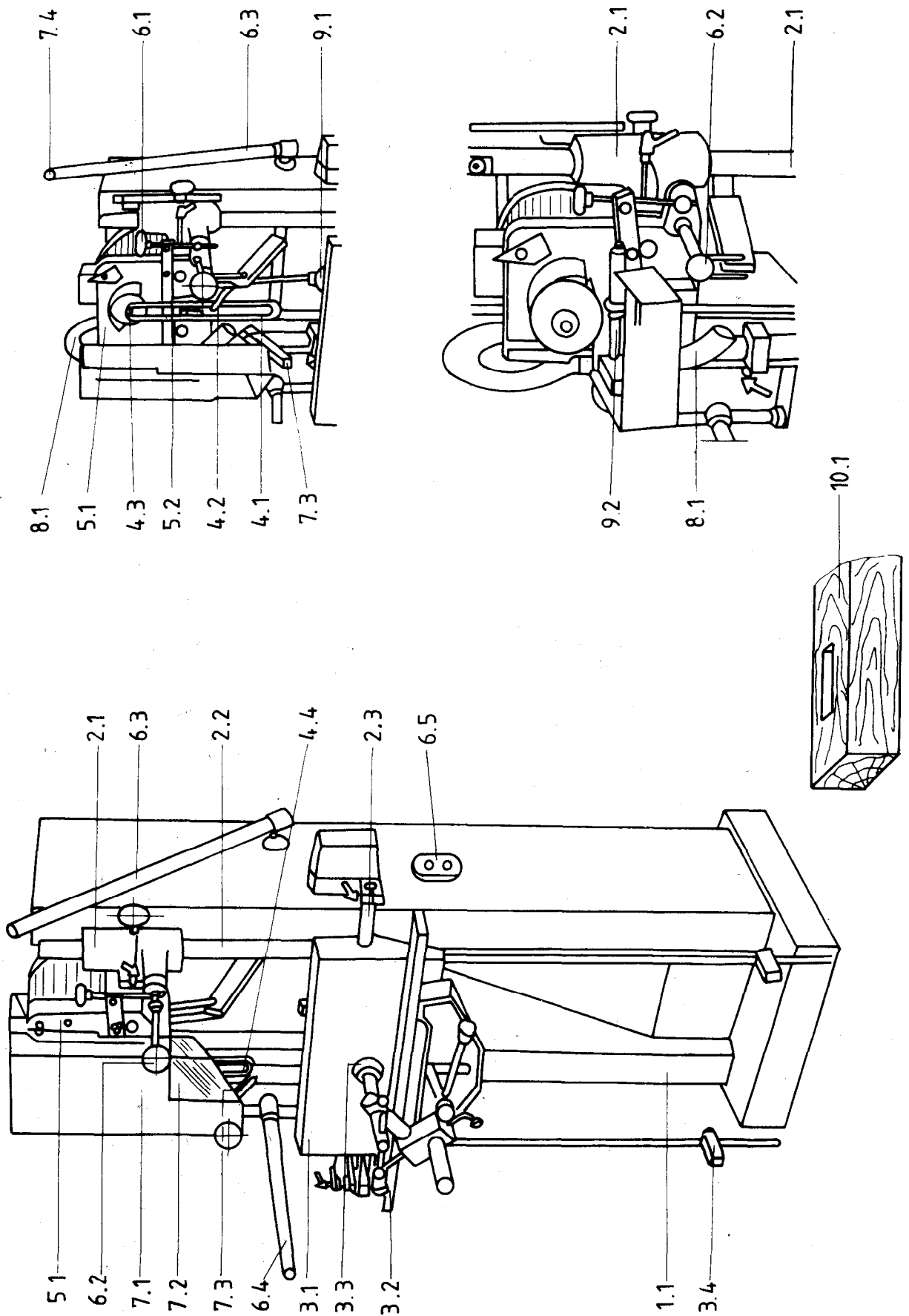
3.4 When inspecting a machine, it is not always possible or necessary to carry out all the tests given in this International Standard.

3.5 It is up to the user to choose, in agreement with the manufacturer, those tests relating to the properties which are of interest to him, but these tests are to be clearly stated when ordering a machine.

3.6 A movement is longitudinal when it takes place in the working direction of the piece.

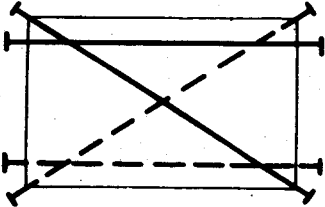
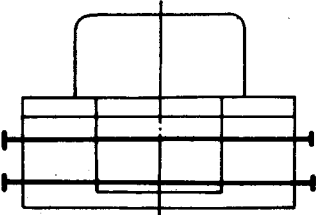
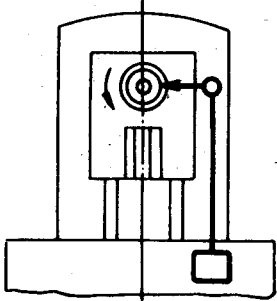
3.7 When establishing the tolerance for a measuring range different from that given in this International Standard (see 2.311 in ISO/R 230), it should be taken into consideration that the minimum value of the tolerance is 0,01 mm.

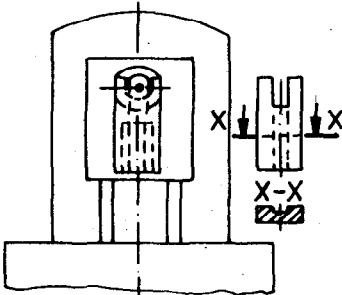
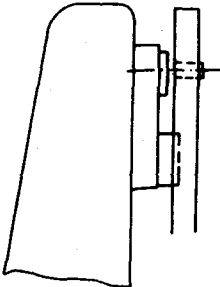
4 Nomenclature

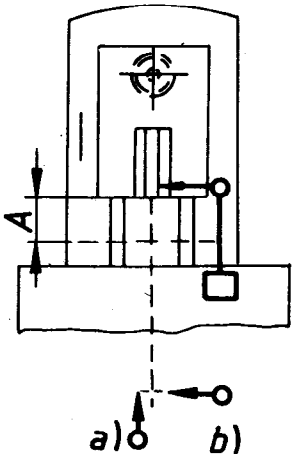
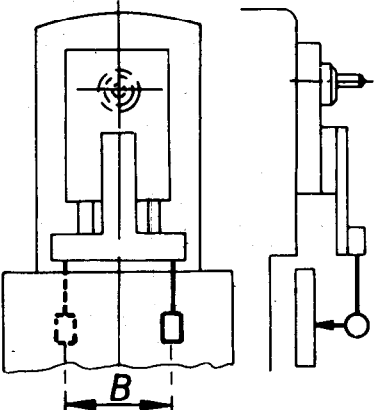


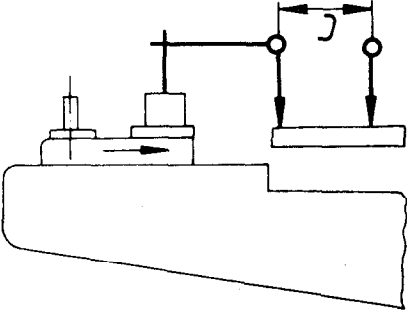
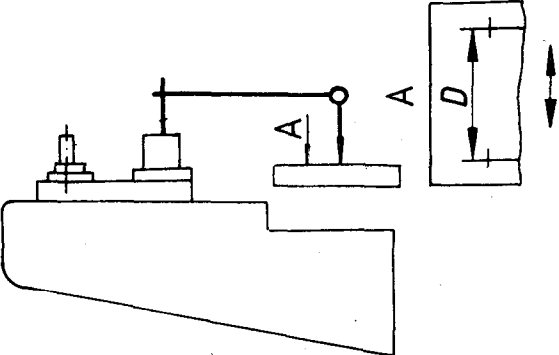
Reference	English
	Single chain mortising machine
1	Framework
1.1	Body
2	Feed of workpiece and/or tool
2.1	Headstock carriage
2.2	Main vertical slide
2.3	Table slide
3	Workpiece support clamp and guide
3.1	Back plate
3.2	Horizontal table
3.3	Clamp
3.4	Bottom location for door lock mortising
4	Tool holder and tools
4.1	Mortise chain
4.2	Guide bar
4.3	Chain sprocket
4.4	Guide bar roller
5	Work heads and tool drives
5.1	Chain headstock
5.2	Guide bar holder
6	Controls
6.1	Chain tension adjustment
6.2	Chain cross adjustment
6.3	Head vertical movement control
6.4	Table longitudinal movement control
6.5	Stop/start switch
7	Safety devices (examples)
7.1	Guard
7.2	Guard window
7.3	Chip breaker
7.4	Safety catch
8	Miscellaneous
8.1	Chip outlet nozzle
9	Accessories
9.1	Chain lubricating device
9.2	Chain grinder
10	Examples of work
10.1	Mortise

5 Acceptance conditions and permissible deviations — Geometrical tests

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G1		Checking of flatness of the back plate : a) longitudinal straightness b) diagonal straightness	a) and b) 0,20 for any measuring length < 500 0,40 for any measuring length > 500	Straightedge and feeler gauge	Clause 5.322
G2		Checking of straightness of the metallic part of the table :	0,20 for any measuring length < 500 0,30 for any measuring length > 500	Straightedge and feeler and gauge	Clauses 5.212 and 5.222
G3		Measuring of run-out of the spindle	0,04	Dial gauge	Clause 5.612.2

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G4		Checking of alignment of the sprocket spindle to the guide bar location	0,25	Manufacturer's special type of gauge	Clause 5.442
G5		Checking of alignment of the guide bar location and sprocket spindle shoulder	0,20	Straightedge and manufacturer's special type of gauge	Clause 5.442

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G6		Checking of parallelism of the head motion to the guide bar location	a) and b) 0,20 for $A = 150$	Dial gauge	Clause 5.422.2
G7		Checking of parallelism of guide bar location to the back plate	0,25 for $B = 150$	Dial gauge and manufacturer's special type of gauge	Clause 5.412.2

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISU/R 230
G8		Checking of parallelism of the head motion to the back plate	0,20 for $C = 150$	Dial gauge	Clause 5.422.2
G9		Checking of parallelism of the plane of the back plate to its motion	0,30 for $D = 300$	Dial gauge	Clause 5.422.2

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